

**Amendments to the Drawings:**

The attached sheets of drawings include some aesthetic changes to Figs. 1-5 and substantive changes to Fig. 1. These sheets, which include Fig. 1-5 and new Fig. 6, replaces the original sheets including Figs. 1-5.

Attachment: Replacement Sheets  
Annotated Sheets Showing Changes

### **REMARKS/ARGUMENTS**

Reconsideration of the present application, as amended, is respectfully requested.

The drawings stand objected to under 37 CFR 1.83(a).

Of previously pending claims 1-33, claims 2, 13, and 24 were rejected under 35 USC §112, first paragraph, as failing to comply with the written description requirement. Claims 12-18 were rejected under 35 USC §112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter that the Applicant regards as the invention. Claims 1, 4-7, 12, 15-18, 23, and 26-29 were rejected under 35 USC §102(b) as being allegedly anticipated by Roberts (US 5,513,029). Claims 1-33 were rejected under 35 USC §102(b) as being allegedly anticipated by Dawson (US 5,416,623). Claims 2, 3, 13, 14, 24, and 25 were rejected under 35 USC §103(a) as being allegedly unpatentable over Roberts in view of Dawson.

#### **Changes in the Drawings:**

The drawings have been amended in response to the Examiner's request for the purpose of overcoming the Examiner's objection. Specifically, Fig. 6 has been added as described on page 10, lines 8-11 of the applicants' specification.

Furthermore, a set of replacement drawings is hereby submitted to replace the original drawings for Figs. 1-5. The new drawings replace the reference numerals which were marked by hand and ensure that the drawings are correctly sized. Some minor changes were also made for aesthetic purposes. Also, in Fig. 1 a connection has been made to fill the inadvertent gap between the laser 106 and the optical add multiplexer 108.

No new matter has been added. Approval of the corrections is respectfully requested.

#### **Changes in the Specification:**

The specification on pages 6 and 10 has been amended to accommodate the addition of new Fig. 6. The amendment in the paragraph entirely on page 9 was made to improve the readability of the application. No new matter has been added.

**Changes in the Claims:**

Claims 12 and 30 have been amended in this application to correct typographical errors noted by the Examiner (claim 12) and by the applicants (claim 30).

**Rejection under 35 USC §112, first paragraph – claims 2, 13 and 24**

Claims 2, 13 and 24 were rejected under 35 USC §112, first paragraph, for failing to comply with the written description requirement. The Office Action alleges that the feature of claims 2, 13, and 24, “adding the spread spectrum signal to said payload data signal to form a modulation signal; and applying said modulation signal to input of an optical modulator that modulates said optical signal,” was not described in the specification. To the contrary, the specification on page 10, lines 8-11 has such a description and new drawing Fig. 6 should make the description clearer.

The claims meet the statutory requirements.

**Rejection under 35 USC §112, second paragraph – claim 12-18**

Claims 12-18 were rejected under 35 USC §112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter that the applicants regard as their invention. Independent claim 12 has been accordingly amended. The claims should now meet the statutory requirements.

**Rejection under 35 USC §102(b) – claims 1, 4-7, 12, 15-18, 23, and 26-29**

Claims 1, 4-7, 12, 15-18, 23, and 26-29 were rejected under 35 USC §102(b) as being allegedly anticipated by Roberts (US 5,513,029). This rejection is respectfully traversed.

A claim must be anticipated for a proper rejection under §102(a), (b), and (e). This requirement is satisfied “only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference”; see MPEP §2131 and *Verdegaal Bros. V. Union Oil*, 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1984). A rejection under §102(b) may be overcome by showing that the claims are patentably distinguishable from the prior art; see MPEP §706.02(b).

Independent claim 1 recites:

“...a method for superimposing utility data on an optical signal, said method comprising:  
receiving utility data from a utility data source;  
spreading said utility data according to a spreading code to generate a spread spectrum signal; and  
modulating said optical signal with a combination of said spread spectrum signal and a signal carrying payload data.”

Claim 1 calls for “receiving utility data,” not a dither signal of Fig. 2 which the Examiner has identified with utility data. The dither signal in the Roberts system is used to gather utility data, but is not itself utility data. From the encoded dither signal, the Roberts system estimates signal and noise components by comparing the measured amplitude of the measured total power. See. e.g., col. 3, lines 6-14. Stated differently, the Roberts dither signal, which is purported to be utility data, is a base line signal, not indicative of the state or operation of the network, from which utility data is then generated. But this is not what is claimed by the applicants.

Independent claims 12 and 23 similarly include language of “utility data” and hence are patentably distinguishable over the cited Roberts patent and should be allowable. Dependent claims 2-7, 13-18 and 24-29 should be allowable for at least be dependent upon allowable base claims.

Moreover, at least some of the dependent claims are patentable in their own right. For example, claims 2, 3, 13, 14, 24 and 25 recite limitations which are not disclosed in the cited Roberts patent. Claims 6, 17 and 28 recite that the utility data further comprises firmware. The dither signal of Roberts is not firmware data; “the low frequency dither signal may be a pseudorandom sequence which encodes the known modulation depth of the dither signal.” See col. 3, lines 39-42.

Hence claims 1-7, 12-18, and 23-29 are allowable over the Roberts patent.

**Rejection under 35 USC §102(b) – claims 1-33**

Claims 1-33 stand rejected under 35 USC §102(b) as being allegedly anticipated by Dawson (US 5,416,623). This rejection is respectfully traversed.

Dawson describes a line monitoring arrangement where a sequence of test pulses, which the Examiner has identified with the applicants' "utility data," is generated and launched. The test pulse sequences and system data signals are superimposed onto the transmission line. See the Abstract. The Dawson test sequence signals are not "utility data" recited in the applicants' independent claims 1, 8, 12, 19, 23 and 30. The applicants' utility data pertain to the operation of the network itself, and not to external base line signals from which network operation might be subsequently determined, as the applicants pointed out previously. As explained in col. 4, lines 4-7, the test sequence signals in the Dawson patent are PRBS (pseudo-random binary signals), which have nothing *per se* to do with the Fig. 1 network or its operation. After being reflected by the Fig. 1 network, the returned signals are correlated and processed to determine faults in the network fiber links. Col. 4, lines 26-44. Hence the test sequence signals are not utility data and the Dawson patent does not anticipate independent claims 1, 8, 12, 19, 23 and 30 which should all be allowable.

Dependent claims 2-7, 9-11, 13-18, 20-22 and 24-33 should also be allowable for at least being dependent upon allowable base claims. Furthermore, at least some of the dependent claims are patentable in their own right. For example, claims 2, 3, 13, 14, 24 and 25 recite limitations which are not disclosed in the cited Dawson patent, as the Examiner appears to admit. Claims 5, 16 and 27 recite that the utility data comprise a signal strength indication. As pointed out above, the Dawson test sequence signals (identified as the applicants' utility data) are pseudo-random binary sequences and cannot relay information by the randomness of the signals. It is the correlation and processing of the reflected signals by which signal strength information is determined. Similarly, claims 6, 17 and 28 recite that the utility data further comprises firmware, which certainly cannot be identified with pseudo-random binary signals, Dawson *et al.*'s test sequence signals.

Therefore, claims 1-33 are not anticipated by the cited Dawson patent and should be allowable over the reference.

**Rejection under 35 USC §103(a) – claims 2, 3, 13, 14, 24, and 25**

Claims 2, 3, 13, 14, 24, and 25 stand rejected under 35 USC §103(a) as being allegedly unpatentable over Roberts in view of Dawson. This rejection is respectfully traversed.

The Examiner stated:

Regarding claims 2, 3, 13, 14, 24 and 25, Roberts teaches all the aspects of the claimed invention except fails to specifically teach adding the spread spectrum signal to the payload data signals to form a modulation signal. However, Dawson in U.S. Patent No. 5,416,623 teaches adding the spread spectrum signal to the payload data signal to form a modulation signal (see Fig. 1, col.4, lines 1-67 and col. 5, lines 1-25.) Therefore it would have been obvious to one having skill in the art at the time the invention was made to incorporate the adding the spread spectrum signal to the payload data signal to form a modulation signal as taught by Dawson in the system of Roberts. One of ordinary skill in the art would have been motivated to do this since Dawson suggests in column 4, line 1-67 and col. 5, lines 1-25 that using such the adding spread spectrum signal to the payload data signal to form a modulation signal have the advantage of allowing a pseudo random code is used to broaden the emission spectrum of laser in the optical transmitter to reduce non-linear optical effects and to transmit communications and control information between nodes on an optical network.

Under MPEP §706.02(j), in order to establish a prima facie case of obviousness required for a §103 rejection, three basic criteria must be met: (1) there must be some suggestion or motivation either in the references or knowledge generally available to modify the reference or combine reference teachings (MPEP §2143.01), (2) a reasonable expectation of success (MPEP §2143.02), and (3) the prior art must teach or suggest all the claim limitations (MPEP §2143.03). See In re Royka, 490 F. 2d 981, 180 USPQ 580 (CCPA 1974).

The applicants do not believe that the cited references neither singly, nor in combination, teach the applicants' invention as recited in claims 2, 3, 13, 14, 24, and 25. In the first place, as pointed above, the purported "utility data," i.e., the low frequency dither signals, in the Roberts

patent (nor the test sequence signals in the Dawson patent) is not the utility data recited in the applicants' claims. There is no teaching of the applicants' claimed invention.

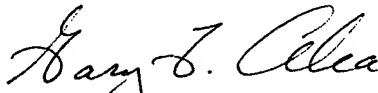
Secondly, in their perusal of the Dawson patent the applicants do not see all the elements recited in the rejected claims. Claim 2, for example, recites, "...adding said spread spectrum signal to said payload data signal to form a modulation signal; and applying said modulation signal to input of an optical modulator that modulates said optical signal." Claim 3 recites "...adding said spread spectrum signal to said payload data signal to form a modulation signal; and driving a laser using said modulation signal so that said laser outputs said optical signal modulated with both said payload data and said utility data." With respect to the rejection of claim 2, the applicants request identification of the corresponding modulator in the extensive cited portions of the Dawson patent. There does not appear to be a modulator block in Figs. 1 and 3, the subject of the cited text. With respect to claim 3, the applicants request identification of a laser being driven by a modulation signal. There does not appear to be a laser in Figs. 1 and 3.

Hence claims 2 and 3 are not obvious over the Roberts and Dawson references and should be allowable. Claims 13, 14, 24 and 25 have language similar to claims 2 and 3 and hence should also be allowable.

#### Conclusion.

Therefore, in view of the amendments above and the remarks directed thereto, the applicants request that all rejections be withdrawn, that claims 1- 33 be allowed and the case be passed to issue. If a telephone conference would in any way expedite the prosecution of the application, the Examiner is asked to call the undersigned at (408) 868-4088.

Respectfully submitted,



Gary T. Aka  
Reg. No. 29,038

AKA CHAN LLP  
900 Lafayette Street, Suite 710  
Santa Clara, CA 95050  
Tel: 408-868-4088/Fax: 408-608-1599

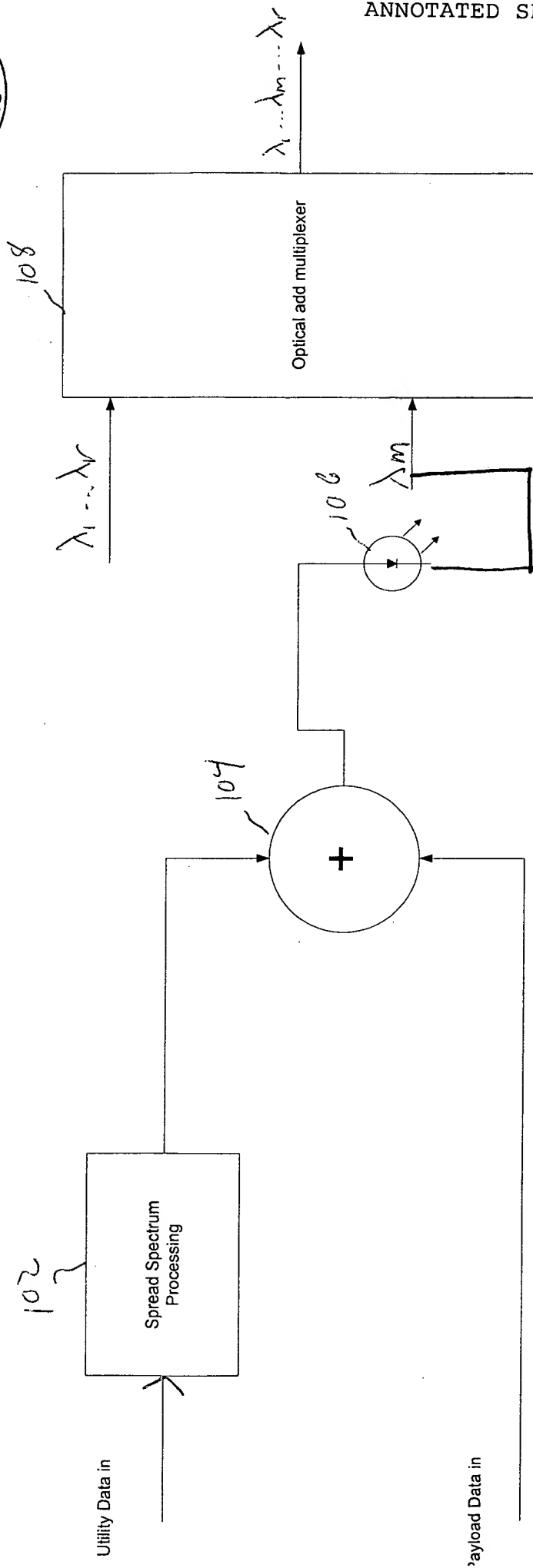


Fig. 1